HYBRID METHOD FOR MANUFACTURING TITANIUM COMPRESSOR IMPELLER

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Abstract of **JP2004052754**

PROBLEM TO BE SOLVED: To provide a simple, economical method for the mass production of titanium compressor wheels. SOLUTION: In a hybrid process, a wax pattern used in the investment casting process is intentionally designed not to produce a final (net shape) compressor impeller, but rather, is designed to produce a near net shape pattern including filled in areas which must be subsequently machined or milled away to produce the desired non-pullable shape compressor impeller. Surprisingly, when forming a titanium compressor impeller using the hybrid or two-step process, the technical complexity of each step (pattern forming and machining) is substantially lower, distortion of the wax blades during pattern casting is reduced, casting of titanium is simplified, the process allows itself to be fully automated, and the dimensional accuracy of the final product is greater than with conventional techniques.
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